I claim:

1. A method of replacing a natural vertebral disc, said method comprising steps of

removing at least a portion of the vertebral disc, leaving an intervertebral space between opposed vertebral end plates,

inserting a deflated balloon into said space,

injecting a first liquid into said space until proper intervertebral spacing is achieved,

aspirating all of said first liquid from said space and measuring the withdrawn volume of said first liquid,

injecting the same volume of a hardenable material in liquid form into said space, and

causing or allowing said hardenable material to harden in said space, without withdrawing the balloon, thereby forming a stable mass conforming in shape to said intervertebral space.

2. The method of claim 1, wherein said hardenable material is a polymeric material.

3. A method of replacing a natural vertebral disc, said method comprising steps of

removing at least a portion of the vertebral disc, leaving an intervertebral space between opposed vertebral end plates,

inserting a first deflated balloon into said space,

placing a second deflated balloon within said first balloon, thus defining a second chamber between said first balloon and said second balloon,

injecting a first material in liquid form into said first balloon,

injecting a second hardenable material in liquid form into said chamber, and

causing or allowing said hardenable materials to harden, without withdrawing either balloons, thereby forming a stable mass conforming in shape to said intervertebral space.

4. The method of claim 3, wherein said first material is hardenable.

5. The method of claim 4, wherein said first hardenable material and said second hardenable material have, when hardened, different physical properties.

6. The method of claim 5, wherein said first hardenable material is harder than said second hardenable material, when both have hardened.